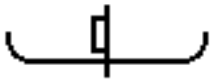
FPG-9 Control Activity

Name_____ Class ____

Directions: Answer the questions below. Draw pictures to aid each response. You should draw the plane from a rearview perspective, as though the plane is flying away from you and in to the paper. Remember to launch your plane with the same amount of force and at the same angle for each step in this activity.

1. How would you position both elevons so the plane will loop? Draw the elevons on the picture below: (You are looking at the back of the plane.)

2. What happens when the elevons are neutral (they are even with the wing) and the rudder is moved to the left? (You are looking at the back of the plane.)



3. Place the rudder in a neutral position for the following experiment: How would you arrange **both** elevons to get your plane to fly to the left? Draw the position of the plane's elevons.

4. How can you get your plane to fly to the right? There are at least 3 possible answers. Draw a picture of the back of each plane and show the position of its control surfaces. Feel free to use combinations of the rudder and the elevons.

Collect data for these two different elevon configurations:

Elevon Configuration	**Flight Time (Seconds)**				**Average Flight Time (Seconds)**
	Trial 1	Trial 2	Trial 3	Trial 4	
A) 					
B) 					

5. Which configuration (A or B) is better at keeping the nose of the plane in the air? Which plane flew longer? Why did it fly longer?

6. Which configuration (A or B) has more drag? Why? What do you think drag is?

7. Refer to the following picture to answer this question: Which wing has higher pressure under it when the plane is flying? Circle your answer below:

*The **left wing** has higher pressure under it.*

*The **right wing** has higher pressure under it.*